MEETING SUMMARY
Executive Order B-37-16
Long Term Water Use Targets Workshop
September 6, 2016 | Oakland, CA
CA Department of Water Resources | State Water Resources Control Board | CA Department of Food and Agriculture | CA Public Utilities Commission | CA Energy Commission

Prepared by the Center for Collaborative Policy (CCP)

Meeting Objectives

- Share detailed overview of Water Targets Framework
- Provide feedback to Long Term Water Use Targets Project Team (Targets PT) on proposed framework

Workshop Summary

(*Refer to Appendix A for the Water Targets Workshop presentation slides, Appendix B for the Water Use Targets Handout, and Appendix C for the Executive Order B-37-16.*)

Unless noted otherwise, responses are from Targets PT members, which include staff from the Department of Water Resources (DWR) and the State Water Resources Control Board (SWRCB, CA Department of Food and Agriculture (CDFA), California Energy Commission (CEC) and CA Public Utilities Commission (CPUC) (Collectively, the EO State Agencies) and independent consultants.

A. Recurring Themes

- Participants expressed support for the general framework and understanding for how the new targets were developed. However, they shared concerns regarding detailed aspects of the each standard and what was included.
- Participants shared diverse perspectives on whether to include recycled water as part of the water budget. Some participants expressed concerns that the target was set on overall water use, and all water is precious. Others felt that there should be incentives to use recycled water.
- Participants were supportive of using 'irrigable' landscape area as opposed to 'irrigated' area.
- Participants shared concerns that the State needed to provide more support; types of support varied from State funding to assistance in building local agency self-sustainability.
- The group generally agreed that Commercial Industrial and Institutional (CII) is very complex. Participants made recommendations for performance measures, suggested the Targets PT review the CII Taskforce recommendations and apply the ones that remain relevant. Additional recommendations were for EO State Agencies to consider an "all of the above" approach.

B. Welcome, Introductions, and Agenda Review

Stephanie Lucero, Center for Collaborative Policy Facilitator, welcomed attendees to the Water Targets Workshop, conducted introductions, and reviewed the meeting objectives.

C. Overview of EO Directive #2 and Water Budget Targets

(Refer to presentation slides 1-20, Appendix A)

Erik Ekdahl, SWRCB, reviewed Executive Order B-37-16 (EO) Directive #2 (*Refer to Appendix C*), which outlines SWRCB and DWR's responsibilities to develop new water use targets as part of a permanent framework and build upon existing State law requirements. Peter Brostrom, DWR, then presented an overview of the Targets PT's water budget approach and calculations for Indoor Residential, Outdoor Landscape, CII, and Distribution System Loss Budgets.

D. Use of Water Budget Target Setting: SB X7-7 Method 2

(Refer to presentation slides 21-52, Appendix A)

Richard Harris, EBMUD, presented a practical application of SB X7-7 Target Method 2. EBMUD utilized detailed imagery and geographical information system (GIS) software to enhance landscape water budgets.

E. Projected Indoor Water Savings from Plumbing Codes and Appliance Standards on M&I Water Use

(Refer to presentation slides 53-64, Appendix A)

Dave Mitchel, M-Cubed, presented the results of a study that modeled water use in toilets and urinals from 1990-2040 and clothes washers from 2005-2040.

- **ACTION ITEM:** The Targets PT will post the technical memorandum when finalized.

F. Framework for Indoor Residential Standards

(Refer to presentation slides 65-70, Appendix A)

Mr. Ekdahl reviewed the current proposed standard for indoor residential.

Issues from Discussion

- EO State Agencies confirmed that initial proposed framework will analyze combined populations that include both single-family and multifamily homes.
- Participants expressed interest in maintaining SB X7-7 methods for addressing high vacation populations.
- EO State Agencies clarified that CII is not considered for indoor use, 55 Gallons Per Capita per Day (GPCD) is strictly residential indoor water use.
- EO State Agencies confirmed that the landscape ordinance looks at the planning area not the percentage of a parcel.
- Participants sought clarity on whether the targets distinguish between reclaimed and potable water.
- EO State Agencies clarified that over the next 20 years the State will help local suppliers conduct Landscape area measurements. The model shared offers some options.

- Participants identified the need to clarify under the Framework's Reporting, Compliance, Enforcement (RCE) provisions.
    - Specifically discussed was, what level of enforcement the State will have under the Model Water Efficient Landscape Ordinance (MWELO) to preclude the homeowner from putting in landscapes that increase water use.
- Participants sought clarity on how outdoor irrigation includes commercial properties and how the 0.45 commercial Evapotranspiration Adjustment Factor (ETAF) is determined.
    - Discussions arose regarding how the ETAF is determined and relative variability associated with building age.
- Participants had varied opinions on the use of recycled water. Some felt that water suppliers should receive a credit for indirect potable water use, and others expressed a need to ensure reclaimed water is used efficiently.

Summary of General Discussion

- Mr. Mitchell clarified that showerheads and faucets were excluded from the modeling to expedite modeling results. The model focused on variables where the most significant changes we expected to occur. Faucets present modelling challenges because there is not a way to separate fill or flow rates. Showers that move to lower flow rates may provide additional savings, but most are already flowing below the current standard. Future models could incorporate showerheads if necessary.
- EO Agencies clarified that demographic data (i.e. age of water users, etc.) was not utilized in determining population and distribution. Instead data looked at average shower times and frequencies that came out of the end-use studies. There was no significant change in the shower usage data.
- Participants commented that robust models offer valuable potential to develop end-use standards and utility targets. However, another critical need exists to collect data (e.g., on water use and the water market), and then educate the community and end-users to achieve these long-term water use targets.
- EO Agencies shared that the California State legislature and Federal government suggested that everyone adopt the efficiencies used in the model. An analysis like this can inform what is built into the system, what are the most probable water use changes, and also the rate at which that transformation is likely to take place. If the State or local agencies wanted to accelerate that, this analysis helps identify and estimate feasible methods for acceleration.

Discussion Questions

1. Should the State seek additional efficiency from the indoor standard? If so, what should the State aim for, and by when?

- EO Agencies confirmed that Agencies can achieve efficiencies through existing codes and regulations without an additional mandate to address Disadvantaged Communities (DACs). The State will consider the impacts on DACs if it decides to accelerate efforts to meet the water use targets.
- UAG Members recommended an evaluation of the indoor standard in 2025 and plan on setting new standards as appropriate for 2035 based on that analysis.
- EO Agencies and UAG members discussed the impacts to current infrastructure associated with lower standards for toilets (due to the inability to flush waste under current pressure

conditions). UAG members recommended coordinating with the Building Industry before the California Energy Commission sets standards any lower. Is
    - UAG members questioned whether a large-scale plumbing retrofit for all of California is viable within the current timeframe, or does it require other pieces to be set in motion first. UAG members recommended that data collected from existing suppliers can help explore these questions.
- UAG Member: The EO directive states that new efficiency standards will strengthen existing standards. A 55 GPCD standard beginning in 2021 only maintains, not strengthens, the existing standard. The State should be careful using national data. California leads in plumbing codes and product standards. There is a California-specific end-use study from 2011 covering single family use from 2005-2008 may offer more applicable information.
- UAG Member: Recommended continued collection and expansion of data available over the next five years to make more informed decisions in 2021.
- UAG Members stressed that SB X7-7 included a provision that allowed suppliers to use a regional average for water use efficiency. DWR issued a determination that required suppliers to stay within one hydrologic region. However, interregional partnerships may have a valuable symbiotic relationship that SB X7-7 does not capture. Provide a narrative section on regional efforts. Valuable regional solutions exist for the State to recognize and incorporate as it develops this framework.

G. Framework for Outdoor Landscape Standards.

(Refer to presentation slides 71-79, Appendix A)

Mr. Brostrom provided an overview of the outdoor landscape standards, which reference evapotranspiration (ETo) based on the age and irrigated/irrigable area of the parcels within a supplier's service area. The Targets PT invited participants' feedback on two options under consideration:

1. Include all residential and dedicated irrigation to account for landscape area; or
2. Include all landscapes within the supplier's service area, including landscapes served by CII accounts.

Discussion

1. Which landscapes should be included in the landscape budget?

- Participants recommended simplifying and only use the pre-2010 ETAF of 0.8.
- EO State Agencies clarified that the 1993 ordinance included a requirement to audit existing landscapes, which establishes a budget of 0.8 (unless it is categorized as a "special landscape"). Therefore, pre-1993 landscapes are excluded from the ETAF
    - Participants recommended a landscape budget that considers pre-1993 landscapes.
- Participants recommended including landscapes in rural areas with functioning gardens and agricultural operations (that are core to the lifestyle and also offer societal benefits).
    - Participants also expressed concern with how water for animals, livestock, aviaries, or gardens with casual landscaping would be considered in the landscape budget.
- EO State Agencies clarified that MWELO considers gardens and food production operations as special landscapes.
- EO State Agencies affirmed the need for an aggregate number for the entire service area. For the vendor to accurately get that number, it must be done parcel by parcel. One possibility is

that the State would pay for the aggregate number; then if the supplier wanted the parcel data, they could pay the remaining costs to obtain that data.

- Participants stressed the need to revise the landscape measurements every 10-15 years. The EO State Agencies affirmed that the data will be revised periodically.

2. The inclusion of recycled water:

- Participants recommended including recycled water in the budget. Agencies that have invested in recycled water as a conservation element want to include those parcels that use recycled water.
    - EO State Agencies are still analyzing this. One consideration is the landscape area that is irrigated by recycled water would be included as part of the budget, but the measure of water use for compliance would just include potable.
- Participants recommended applying the same standards for potable water to recycled water since all water resources should be used as efficiently as possible.
- Participants felt that keeping the budget value at 1.0 for recycled landscapes would satisfy the EO goals.

3. Should the State use 'irrigated' or' irrigable' area?

- Participants supported the use of irrigable areas for water budgets, since many agencies may use this as a planning tool to identify water use in the community. Likewise, if a part of the area started watering lawns again, the community would result in a deficit water supply.
- Those representing larger disadvantaged communities in the state are interested in converting dead landscapes to water efficient landscapes, which offers another reason to include irrigable areas.
- Participants felt that Irrigable data are currently fairly accurate, whereas irrigated data varies widely due to more complex factors. For instance, measuring irrigated areas with plants/shrubs require different considerations.
    - EO State Agencies clarified that in each approach, more discussion needs to explore how to consider these variables. Participants specifically addressed variables like tree canopy
    - EO State Agencies clarified that the vendor is still developing the technology to differentiate certain native oaks from nonnatives and tree canopy analysis. They also clarified that the scope of irrigable area applies only to developed land and excludes native land or wildland.

4. The State's pilot project:

- EO State Agencies shared how the 30 water agencies selected for the pilot project were identified at random from 410 agencies. Those with pre-existing landscape data were removed from the sort and the next agency in line was utilized. The list of agencies will be released once the list is vetted internally.

5. Other Comments:

- Participants expressed a desire for advanced metering infrastructure and resources to build this infrastructure to allow for greater management of indoor or outdoor water use.
    - Response: That Alliance for Water Efficiency supports those types of efforts. The State previously established a contract where one of the subtasks included support for infrastructure investments. The funds were redirected when the Alliance took on those efforts, but can be revisited for further discussion.

- Participants expressed concern that increased water use may be necessary before decreases begin. Newly-converted landscape with more water-efficient vegetation (e.g., native bunch grasses), often requires active overwatering for the first five years, then becomes more drought tolerant later in time.

H. Framework for Water Loss Control Actions and Standards

(Refer to presentation slides 80-85, Appendix A)

Max Gomberg, SWRCB, reviewed the water loss standard established through SB 555. The new standard will be set by 2019, and achieved by 2025. The state will reevaluate the standard every 5 years beginning in 2025.

Discussion

1. How should the next round of funding be prioritized for smaller systems?

- Do not limit the DAC population. When population limits are set, allow for regional loans and grants.
- Utilize existing DWR Integrated Regional Watershed Management (IRWM) regions to develop regional solutions to reduce water loss and increase drought resiliency.
    - Response: The EO calls out the Drinking Water State Revolving Fund as a funding source, but there is also IRWM program funding from Proposition 1.
- [UAG Member]: Even with funding, small systems may not know how to execute the required work. Consider partnering experienced agencies with less-experienced agencies to increase efficiency of funding and staff time.
- [UAG Member]: Explore other needed policies and legislative adjustments to effectively implement this framework and realize its full implementation.
- [UAG Member]: Prioritize funding for 'worst first' (i.e., agencies reporting the highest levels of water loss). Complementary policies exist that might help address both water loss and customer-side leakage. Consider strategies such as expediting water meter installation dates on all remaining unmetered service connections, examining customer accounts and service connections for indications of customer-side leakage, setting new water meter standards to more accurately record leakage, and annually reviewing the residential accounts with the highest consumption to detect leaks.

6. Clarifying questions or comments on future process.

- Participants expressed concern that the elements going into the development of the targets appear to include factors beyond water suppliers' control. The State needs to consider all aspects of California water use to ensure the standards are met.
- EO agencies clarified that the EO directs SWRCB to propose more stringent requirements in January 2017 if dry conditions persist. SWRCB will continue to analyze the data, and the SWRCB will likely extend the emergency regulation through 2017. This will address the interim period between expiration of current emergency legislation that expires in January of 2017, and the targets framework that take effect in 2021.
- The EO Agencies confirmed that the Targets framework includes adaptive management to address variables in water loss data. Participants clarified that in order to resolve water loss, agencies must consider apparent loss versus real loss to differentiate between production water versus consumed water.

- EO Agencies clarified that SB 555 applies only to urban water suppliers. The EO explores opportunities in the financial systems, data collection, and technology realms, covering the entire water flow infrastructure. SB 555 also focuses on a specific data collection process and validation leading to standards. The EO is supplemental to that, looking at technology and financial systems.

- The EO offers an opportunity to make reporting more useful for stakeholders and State agencies.

6. Comments on funding and outreach:

- Participants expressed a desire for a consistent message from the State and the utility organizations to help communities understand why the rates are changing to address water loss control. EO Agencies also acknowledged the shared responsibility of water agencies to minimize water loss by identifying and seizing opportunities to detect and minimize leaks for optimal efficiency.
- Generally, Californians possess little understanding of the high costs to achieve a more efficient system. Water suppliers need more resources from the State do replace mainlines and change the water infrastructure.
- [UAG Member]: State funding provides crucial support, but suppliers substantially desire a more consistent State message distributed widely over major media lines. Consistent State messaging and approach allows utilities to become self-reliant, rather than constantly relying on State support.
- [UAG Member]: Consider the energy investor-owned utilities (IOUs). Many IOUs have the money to invest in water loss control because of the energy savings. In the final recommendations, identify and discuss potential funding mechanisms such as IOUs.
- The State Revolving Fund prioritizes leak detection, because leak detection costs less than leak repair. In small rural communities, leak detection and repair do not align with ensuring enough storage exists for customers. Under SB 555, water agencies will have to examine and determine what their basic investment needs are.

I. Framework for Commercial, Industrial, and Institutional Standards

(Refer to presentation slides 86-92, Appendix A)

Peter Brostrom, DWR, reviewed the CII water budget standard. There are three approaches under consideration.

1. Calculate a water budget based on total CII water use;
2. Separate CII Indoor and Outdoor and develop a separate standard for CII Indoor; or
3. Exclude CII water use from a volumetric water budget and instead require implementation of performance measures.

Discussion

1. Should CII water use be separated into outdoor and indoor components?

- [UAG Member]: Consider combining parts of the last two approaches. Separate indoor and outdoor use. For the indoor use, create performance measures and best practices that are implemented once triggered. Also consider layering on a requirement for CII categories

standardization and reporting at a statewide level. The water suppliers could use that information to trigger audits.

- Switching to dedicated irrigation accounts can be expensive, but might prove beneficial in the long run.

4. Are there additional performance measures that should be considered?

- Participants sought clarity on whether snowmaking is considered an outdoor water use. Several ski resorts have made snow to compensate for the low snow pack during drought years. Reducing water use at the resort would result in economic decline. Participants also referenced a study indicating that 80% of the water used to make snow is returned to the system. Participants recommended exemptions for occurrences where water is used but returned to the system.
    - The EO Agencies clarified that the State does not intend to limit economic growth, but documented evidence for processed water will be required.
- The performance measure approach brings in the business community. Create a requirement that businesses conduct their own water audits on a regular basis. Businesses always look for ways to reduce costs, which include utility bills.
- Often times with dedicated meters, there is not enough staff to examine the data and make it useful.
- Allow local agencies the choice of all three approaches as long as they are pursuing the same goal.
- One of the themes that emerged from the SB X7-7 CII Task Force effort included acknowledging the incredible complexity across industry and within industries about water use.
    - The State clarified that these are not performance measures for specific industries, but actions that a water supplier would take.
- Consider an 'all-of-the-above' approach. Take the SB X7-7 CII Task Force recommendations, apply the relevant ones, and consider adding more afterwards. Develop a performance measure at the end and develop best practices for utilities.
- CII is very complex. There is an opportunity to better understand it and develop performance benchmarks overtime.
- Performance measures may be the best way to go, but also consider the staff resources needed to implement CII management.
- [UAG Member]: CII energy use also varies extremely. Look at energy utilities to see how they developed standards for such a complex subject.
- [UAG Member]: The notion of water audits on management plans is one of the most important drought management tools for the CII sector. More savings from the top 100 business customers occur because of water audits.
- [UAG Member]: Conduct a pilot project to see how CII standards would work and better understand the challenges.

J. Closing Comments

Mr. Ekdahl reiterated that further comments be sent to wue@water.ca.gov, highlighted upcoming meetings, and thanked staff at EBMUD and M-Cubed for their presentations and input.

K. Attendees

Name	Agency / Organization

Danielle Blacet	CWWA
Charles Bohlig	EBMUD
David Bolland	Association of CA
Heather Cooley *	Pacific Institute
Shannon Cotulla	STPUD
Martha Davis *	Inland Empire Utilities Agency
Phil Dolan	City of Mountain View
Dave Eggerton*	Calaveras County Water District
Charlotte Ely	US EPA
Justin Finch	Mesa Water District
Amparo Flores	Zone 7
Kevin Galwin	SFPUC
Toby Goddard*	Santa Cruz Municipal Utilities
Paul Helliker	HBMWD
Yop Hissin	MCOTT
Chris Hewes	RMC Water and Environment
Karen Koppett	Santa Clara Valley Water District
Fan Lau	SFPUC
Joone Lopez*	Moulton Niguel Water District
Kelye McKinney	City of Roseville
John Mills	Multiple Clients
Jim Mulligan	City of Roseville
Rob Neena	CA League of Food Processors
Stephanie Nevins	ACWD
Claire Nordlie	EBMVD
Michelle Novotory	SFPUC
Jim Peifer	City of Sacramento
Julie Ortix	SFPUC
Carrie Pollard	Sonoma CWA
Tracy Quinn*	Natural Resources Defense Council
Amy Talbot	RWA
Peter Vorster	TBI
John Woodling *	Regional Water Authority

**UAG Member*

Agency, Consultants, and Presenters

Name	Agency / Organization
Diana Brooks	Department of Water Resources
Peter Brostrom	Department of Water Resources
Erik Ekdahl	State Water Resources Control Board

Max Gomberg	State Water Resources Control Board
Fran Spivy-Weber	State Water Resources Control Board
Emily Adams	Center for Collaborative Policy
Stephanie Lucero (Facilitator)	Center for Collaborative Policy
Richard Harris	EBMUD
Dave Mitchell	M-Cubed

The following Agencies/Organizations attended via Webinar:

DWR
City of Davis
EBMUD
City of Pleasanton
PG&E
City of Santa Maria
City of Clovis
City of Pittsburg
City of Woodland
City of Vacaville
California Public Utilities Commission
City of Mountain View

L. Appendices

- Appendix A – Targets Workshop Presentation Slides
- Appendix B – Water Use Targets Handout
- Appendix C – Executive Order B-37-16